visits to different provinces, is rapidly extending the taste for preservation and research.

The British Association has not yet manifested the vigour of the French society; but, could the contending parties be reconciled, might be of equal service, and might be the means of influencing the Government in the direction pointed out. It can hardly be hoped, that an association of private individuals can ever do more than diffuse the salutary influence of good taste; and any active operations must be the work of a government. But the association might do good service through corresponding members and branch associations, to induce a higher feeling of the value of national antiquities, and often, by its mere representations, might prevent needless alterations. To procure drawings of existing remains, and more especially of such as might be in danger of demolition, should also be one of its main objects. It might also undertake such restorations as were desirable, and did not involve much expense,—as the removal of lath and plaster ceilings, which so often occasion the decay of roof timbers, and the cleaning of churches from whitewash. We would suggest, that in the latter work, the services of the younger members of the profession might be made available for superintendence with considerable advantage. The respect for the forms of Gothic architecture which, we are happy to say, exists amongst the rising generation of architects, would be likely to prevent the destruction of mouldings and ornaments, such as might otherwise occur in the process of cleaning; and the payment of travelling expenses, with the opportunity of gaining much valuable knowledge not to be found in books, would be a sufficient recompense. At the same time, these persons might superintend the taking of casts of ornaments for a museum of national antiquities, a true British museum, such as we hope one day to see in England.

It is to be regretted, that no provision has been made in the buildings of the British Museum for a collection of national antiquities. Such a collection would be of higher value, and of far less expense, than the blocks of granite brought from Egypt at so much trouble and cost, which, however singular as curiosities, have no claim upon the delineator of national manners, and are all but valueless to the artist. It is for want of a receptacle for national antiquities, that we find so many pieces of pottery, carvings, and stained glass, in the hands of dealers, or in private collections; and there is no doubt, that if a proper building were set apart, many private collections would be presented to the public. Such museums exist on the continent, not only in the capitals, but in many provincial towns; and it is to be hoped that the measure now before parliament may end in the immediate establishment of such desirable institutions. We regret that a motion in the common council on the subject of a museum for the city of London did not even come to a discussion. The canopy from the tomb of John of Eltham in the collection a Strawberry-hill, a ceiling from the chamber a Crosby-hall, and considerable portions of St. Katherine's, Tower-hill, in the museum of a celebrated architect; original capitals from Wells Cathedral, in the window of a dealer; fragments from the Temple Church sold publicly, at the time of the late restoration; pieces of stained glass, and encaustic tiles innumerable, might have been restored to their proper positions, or have remained available for examination, had the existence of a national commission in the one case, and of a national museum in the other, preserved them from the comparative oblivion in which they now exist, to the serious detriment of the arts and history of the kingdom. As we have said, no restoration, however perfect, can be of the same value as the original fragment, therefore the latter should be preserved, at least, in some other *locale*.

We cannot too strongly urge the importance of exertions for the preservation of national antiquities of every description, and that those exertions should be immediate and vigorous: let chartered bodies forget their origin in another century, and lead the march of modern improvement, and let antiquaries forget their differences and re-form *one* association stronger than the last. In the present posture every day lessens the number of antiquarian remains, and implores more loudly for a protecting hand. The proceedings of the Central Committee of the Archæological Association shew, that destruction is still at work to a lamentable extent. Old halls and manor-houses disappear even more rapidly than ecclesiastical antiquities, and the same hall, which once we could not walk through without learning, at every step, something of the customs of our ancestors, has been despoiled of its old features, or divided into several residences:—

"The court with nettles, moats with cresses stored,
* * * * * *
Like some lone chartreux stands the good old hall,
Silence without, and fasts within the wall;
No rafter'd roofs with dance and tabor sound,
No noontide bell invites the country round:
Tenants with sighs the smokeless towers survey,
And turn their unwilling steeds another way:
Benighted wanderers, the forest o'er,
Curse the saved candle and unopening door;
While the gaunt mastiff, growling at the gate,
Affrights the beggar whom he longs to eat."

The old halls of England are antiquities most interesting to every one, and expressions of regret at their disappearance are frequent. Can it be necessary that they should, in every case, be sacrificed to modern improvement?*

A national commission for the preservation of antiquities will fall short of its duties unless it secures, consistently with the same preservation, the free admission of the public to every cathedral and museum, which is public property, and endeavours to influence the possessors of private collections to throw their galleries open, on proper stipulations. That most interesting edifice, Hatfield House, is closed to the public, or was so last year; and many others have the like restrictions. That it is *not* the love of the British people to destroy works of art has now become as much an axiom as was the reverse, twenty years back; and while the love of education is on the increase, as now, there is no fear for the future. E. H.

* We have hinted, previously, that Gothic buildings are not the only structures requiring the hand of preservation. Many of our most interesting examples of Italian architecture are in as bad a state.

BRICKS AND BRICKMAKING.

BY JOSEPH LOCKWOOD.

As my former short article on this matter appears to have attracted the attention of some of your readers, I feel justified in adding a few more remarks to those already made. I shall be glad if I succeed in having this matter fully discussed in your pages; for it is not a little singular that, in this scribbling age, the subject of brickmaking should have been passed over by most of the scientific writers of the day, or at least if they have not entirely passed it over, they have touched upon it so lightly, that little or no information is to be gathered from what they have written, with respect to the proper proportions of the materials required in brickmaking. There is considerable difficulty in the matter, and I am afraid it is not possible to clear up all the doubts which exist until a regular series of practical experiments has been carefully performed and the results registered. Brickmakers are as much, if indeed not more, divided on the niceties of their craft, than mere theorists themselves, for, as far as my experience goes, I think I may venture to assert that no two brickmakers agree as to the proper or best way of proportioning the different ingredients they use in the manufacture of their bricks.

This subject hitherto has not attracted that attention amongst architects and engineers that it ought to do; why such should be the case I am at a loss to discover, unless it be that it is thought unworthy of their consideration. I hope, however, the case is different now, and that the working brickmakers themselves will come forward and explain the motives for using their different materials in the way they now do, of course not forgetting in all cases to forward an exact description of the nature and quality of their different earths.

To take up the thread of my former article, I will observe that the quality of a good brick depends principally upon two things—the goodness of the materials, and the way in which they are used. The principal ingredients from which bricks are made are clay, marl, and loam, in all their variety, with the different admixture of breeze, chalk, sand, small coke, &c. The whole of these are reducible into their constituent elements, and by ascertaining what each of the above articles principally consists of, *per se*, we shall most likely be able to get some clue as to what ought to be the different proportion used of either the one or the other.

I cannot here, however, undertake to describe the chemical bases and relations which belong to each of the above articles, as that would make the present article of too great a length. But before any really correct results can be given, or general rules laid down, it will be necessary to examine each ingredient separately, to ascertion its various combinations, and neutralizing properties, when mixed or applied in any way to the other articles with which it has to be incorporated, when used in brickmaking.

It is impossible to give a general description of what in common language is called "clay," as it comprehends too many substances and qualities, which vary with local circumstances; most clays possess an earthy texture, and yield an argillaceous odour when handled; they differ as much in their plastic qualities as they do in colour. The principal ingredients of clay are silica and alumina, with a small quantity of lime, and occasionally of magnesia and alkali. Sometimes clay is red, yellow, blue, greenish blue, or mottled; it is often light, loose, and sandy, frequently heavy and greasy, and mostly friable when exposed to the action of the atmosphere. It varies in its bed even in the narrow limits of a field, some portion of the same field being much superior to the other, although it does not differ much in colour or appearance, but a practised hand and eye will readily detect the different qualities when examined closely.

If a clay contains an over proportion of sand, it will require the assistance of some dry substance to modify the action of the fire in the clamp, as the siliceous particles in the clay will fuse and run when under the action of great heat. In such case, it is plain that an increase in the quantity of chalk will be of great service if properly blended with the clay, because it will take up the fusing silica, and hold it together; a much less quantity of breeze also will be required, for as the materials used readily transmit heat from particle to particle, it will be easier to get them up to any required heat than when the substances do not so readily take the fire.

In round numbers, silica contains about 51 of oxygen in one hundred parts, and of alumina about 47, so that there is a large amount of oxygen combined in the elementary bases of clay, which will convince us of the necessity of not applying too strong a fire in the case where the silica is plentiful, for if we do, the certain result will be, that the bricks will "run" and be burnt into clinkers; in such case, therefore, my experience leads me to increase the chalk or similar "holding" bodies, and decrease to some extent the quantity of breeze mixed with the clay. The more alumina there is in the clay the better will be the brick if it is properly tempered by the introduction of sand and breeze, the one to burn it, the other to keep it from shrinking too much when under the action of the fire.

The best malm-bricks are made from a light kindly clay, which contains a free proportion of limestone. To get up good coloured, fine-grained bricks from this description of earth, it will be advisable to introduce both sand and breeze, the latter in larger proportion perhaps than with commoner clay, because the lime which is incorporated with the clay contains less oxygen in proportion than when the base contains a greater quantity of silica; added to which, the sulphur in the breeze or cinders combines during the process of combustion with the alumina, and brightens the colour by turning the clay more or less white, for it is well known, that when clay contains a large proportion of alumina, it has a tendency to turn white when under the action of fire.

From what has just been advanced, it would appear that the quality of the bricks may be very much varied by increasing or decreasing any of the different materials used in its manufacture, in some measure, if not principally, in consequence of the chemical property of the clay being materially changed by the addition or subtraction of one or other of them; if we add a larger quantity of breeze, for instance, to a clay overcharged with sand, a necessary consequence will be, that it will have a ten-

To learn more about OCR and PDF Compression visit our website